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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,776	09/29/2000	Fumiyoshi Ono	Q61045	2256

7590

10/31/2002

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EXAMINER

BROWN, CHARLOTTE A

ART UNIT

PAPER NUMBER

1765

DATE MAILED: 10/31/2002

14

Please find below and/or attached an Office communication concerning this application or proceeding.

BEST AVAILABLE COPY

Office Action Summary

Application No.
09/672,776

Applicant(s)

Ono

Examiner
Charlotte Brown

Art Unit
1765



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 3, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-9 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 1765

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasai et al. (US 6,007,592) in view of Garg et al. (US 6,258,137).

Kasai discloses a polishing composition for an aluminum disk that includes water, an alumina abrasive agent and a polishing accelerator. Since the polishing composition is used for polishing an aluminum disk, this reads on the applicant's limitation of mechanochemically polishing a metal film on a semiconductor substrate with the polishing composition. The polishing accelerator is preferably basic aluminum nitrate. The abrasive agent is alumina. The alumina particles have a mean particle size of 0.1 to 0.4 μm (Column 3, lines 56-62). The alumina has an alumina crystalline structure with an alpha-phase content of 80% to 95% (Column 4, lines 4-16). This reads on the applicant's limitation that the alumina particles have an alpha conversion ratio of from 68% to 90%.

Unlike the claimed invention, Kasai does not teach a method in which the alumina particles have a specific surface area of from 31 to 77 m^2/g .

Garg discloses Chemical Mechanical Polishing (CMP) processes and products. The

Art Unit: 1765

process comprises polishing a substrate comprising metal and a non-conductive material using an abrasive that comprises an alumina powder. The powder has a BET surface area of at least 50 m²/g. This reads on the applicant's limitation of the alumina particles having a specific surface area of from 31 to 77 m²/g. The alumina has an alpha alumina content of at least 90% by weight.

It is the Examiner's position that a person having ordinary skill in the art would have found it obvious to modify Kasai with the method of using alumina particles with a specific surface area as taught by Garg. The method of using alumina particles with a specific surface area in the polishing composition would have been expected in order to provide an abrasive that will remove metal selectively and slowly such that dishing can be minimized (Column 1, lines 60-64).

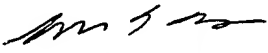
Art Unit: 1765

3. Any inquiry concerning this communication from the Examiner should be directed to Charlotte A. Brown whose telephone number is 703-305-0727. The Examiner can normally be reached during the hours of 9:00AM to 6:30PM.

The fax phone numbers for the organization where this application or proceeding is assigned are 704-872-9310 for regular communications and 703-872-9311 for After Final communications.

CAB

October 28, 2002


BENJAMIN L. UTECH
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